Fl is a fluorophore;

N is a nitrogen atom;

B_{d1} and B_{d2} are independently selected binding groups, wherein the binding groups are capable of binding the analyte molecule to form a stable 1:1 complex;

Sp is an aliphatic spacer;

An is an anchor group for attaching the sensor to a solid substrate; and

n = 1 or 2, m = 1 or 2, and x is an integer;

(b) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(c) detecting the generated analyte signal; and

(d) determining the concentration of the analyte contained in the sample.

41. (New) The method of claim 40, wherein the analyte is selected from the group consisting of saccharides, amino saccharides, and carbonyl saccharides.

42. (New) The method of claim 41, wherein the Sp comprises six carbon atoms and the analyte is glucose.

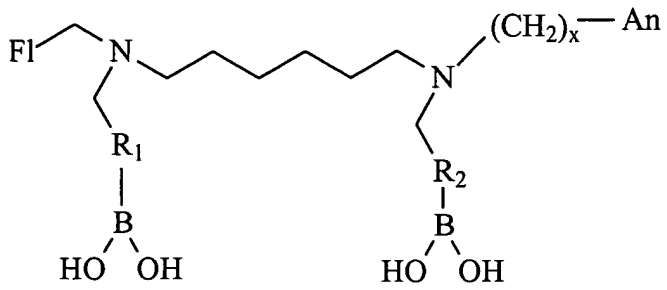
43. (New) The method of claim 40, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylene.

44. (New) The method of claim 40, wherein B_{d1} is R_1-$B(OH)_2$ and B_{d2} is R_2-$B(OH)_2$, wherein R_1 and R_2 are aliphatic or aromatic functional groups selected independently from each other and B is a boron atom.

45. (New) The method of claim 44, wherein R_1 and R_2 selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

46. (New) The method of claim 40, wherein An comprises methyl or phenyl.

47. (New) The method of claim 40, wherein the modular fluorescence sensor has the following general formula:



wherein:

B is a boron atom; and

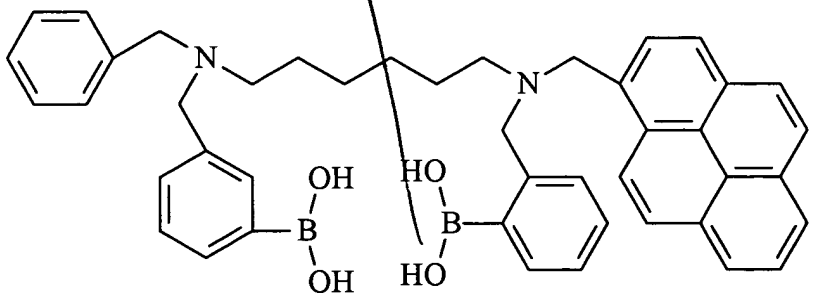
R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other.

48. (New) The method of claim 47, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylene.

49. (New) The sensor of claim 47, wherein R_1 and R_2 are independently selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

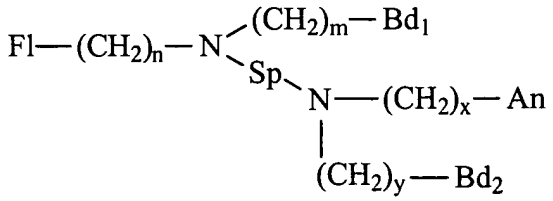
50. (New) The method of claim 47, wherein the analyte is glucose.

51. (New) The method of claim 40, wherein the analyte is glucose and the modular fluorescence sensor has the following general formula:



22 ~~52.~~ (New) A composition comprising:

a modular fluorescence sensor having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B_{d1} and B_{d2} are independently selected binding groups, wherein the binding groups are capable of binding an analyte molecule to form a stable 1:1 complex;

Sp is an aliphatic spacer;

An is an anchor group for attaching the sensor to a solid substrate; and

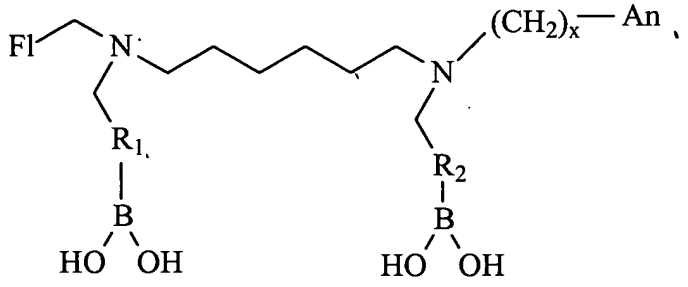
n, m, x and y are integers, where y = 1 or 2, n = 1 or 2, m = 1 or 2, and x is an integer; and

an analyte bound to the sensor.

23 ~~53.~~ (New) The composition of claim ~~52~~ 22, wherein the analyte is selected from a group comprising saccharides, amino saccharides, and carbonyl saccharides.

24 ~~54.~~ (New) The composition of claim ~~52~~ 22, wherein the Sp comprises six carbon atoms and the analyte is glucose.

25 ~~55.~~ (New) The composition of claim ~~52~~ 22, wherein the modular fluorescence sensor has the following general formula:

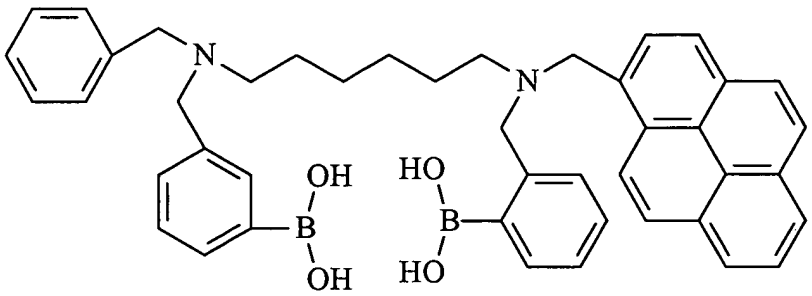


wherein:

B is a boron atom; and

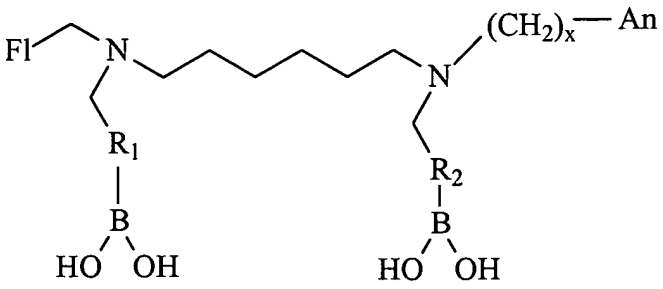
R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other.

56. (New) The composition of claim ~~52~~ 22, wherein the analyte is glucose and the modular fluorescence sensor has the following general formula:



57. (New) A method for detecting glucose contained in a sample comprising the steps of:

(a) providing a modular fluorescence sensor having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B is a boron atom;

R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other;

An is an anchor group for attaching the sensor to a solid substrate; and

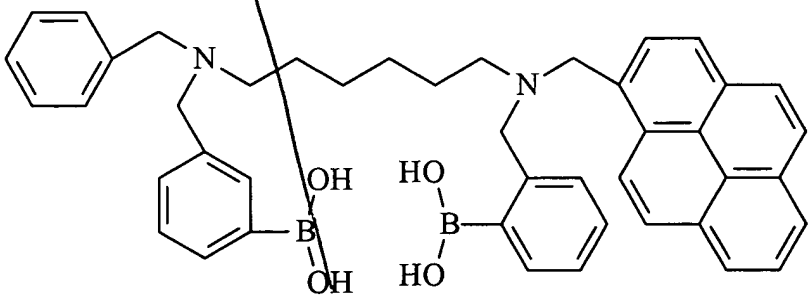
x is an integer.

(b) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(c) detecting the generated analyte signal; and

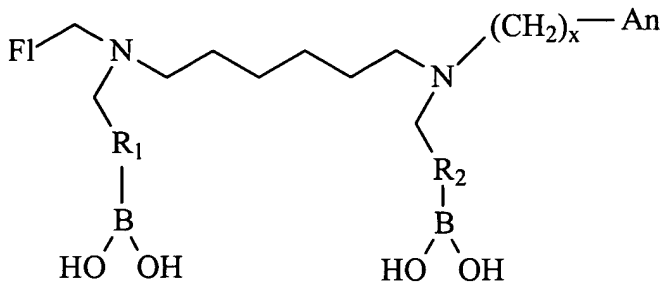
(d) determining the concentration of the analyte contained in the sample.

58. (New) The method of claim 57, wherein the analyte is glucose and the modular fluorescence sensor has the following formula:



27 ~~59.~~ (New) A composition comprising:

a modular fluorescence sensor having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B is a boron atom;

R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other;

An is an anchor group for attaching the sensor to a solid substrate; and

x is an integer; and

glucose bound to the sensor.

28 ~~60.~~ (New) The composition of claim ~~59~~ 27, wherein the modular fluorescence sensor has the following general formula: